



Receipt

#2

I hereby certify that this correspondence is being deposited this day with the United States Postal Service as first class mail in an envelope addressed to: Asst. Comm. for Patents, Washington, DC 20231

Paula M. Thejsmann

Date: 9/18/00

Asst. Commissioner of Patents & Trademarks  
Washington, D.C. 20231

Attention: Application Processing Division  
Customer Correction Branch

FILE COPY

TECH CENTER 2700

OCT - 6 2000

RECEIVED

Applicant : Paul A. Underbrink and Steven A. Gronemeyer  
Attorney Docket No. : 9785980-0008  
Serial No. : 09/604,595  
Title : Improved System and Method for Despreading in a Spread Spectrum Matched Filter  
Filing Date : June 27, 2000

Subject: Filing Receipt Correction

Dear Sir or Madam:

Please correct the filing receipt (copy enclosed) related to the above referenced patent application. The "Applicant(s)" should be corrected as follows: "Steven A. Gronemeyer" should be --Steven A. Gronemeyer--as evidenced by the transmittal sheet and the "Continuing Data as Claimed by Applicant" should be corrected as follows: "CON of 09/498,893 02/07/2000" should be --CIP of 09/498,893 02/07/2000-- as evidenced by a copy of first page of the patent application. Thank you.

Respectfully submitted,

Francisco A. Rubio-Campos  
Reg. No. 45,358  
Sonnenschein Nath & Rosenthal  
P. O. Box #061080  
Wacker Drive Station - Sears Tower  
Chicago, IL 60606-1080  
(312) 876 8000



## FILING RECEIPT



\*OC00000005339576\*

UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark OfficeAddress: ASSISTANT SECRETARY AND  
COMMISSIONER OF PATENT AND TRADEMARKS  
Washington, D.C. 20231

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
09/604,595	06/27/2000	2734	4152	9785980-0008	11	6	6

Francisco Rubio-Campos  
Sonnenschein Nath & Rosenthal  
8000 Sears Tower  
233 S Wacker Drive  
Chicago, IL 60606-6404

RECEIVED

SEP 12 2000

Sonnenschein Nath &amp; Rosenthal

RECEIVED  
OCT - 6 2000  
CSC CENTER 2700

Date Mailed: 08/21/2000

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the PTO processes the reply to the Notice, the PTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

Paul A. Underbrink, Lake Forest, CA ;  
Steven A. Gronemyer, Cedar Rapids, IA ;

## Continuing Data as Claimed by Applicant

THIS APPLICATION IS A CIP OF 09/498,893 02/07/2000  
WHICH IS A CIP OF 09/145,055 09/01/1998 PAT 6,044,105

## Foreign Applications

If Required, Foreign Filing License Granted 08/21/2000

## Title

Improved system and method for despreading in a spread spectrum matched filter

## Preliminary Class

375

Data entry by : DILLON, LAWANDA

Team : OIPE

Date: 08/21/2000





# IMPROVED SYSTEM AND METHOD FOR DESPREADING IN A SPREAD SPECTRUM MATCHED FILTER

## Cross-Reference To Related Applications

1. This application is a continuation in part of Non-Provisional Patent Application  
5 Serial No. 09/498,893, filed on February 7, 2000, and entitled IMPROVED DOPPLER  
CORRECTED SPREAD SPECTRUM MATCHED FILTER, which is a continuation in part  
of Non-Provisional Patent Application Serial No. 09/145,055, filed on September 1, 1998,  
and entitled DOPPLER CORRECTED SPREAD SPECTRUM MATCHED FILTER, now  
U.S. Patent No. 6,044,105, both of which are incorporated by reference.

## 10 2. Technical Field

This invention relates to electronic communication systems. In particular, the  
invention relates to an improved system and method for despreading a PN code from a  
spread spectrum signal in a matched filter.

## 3. Background Of The Invention

15 Conventionally, data communication systems use narrow band modulation  
techniques, such as amplitude modulation "AM," frequency modulation "FM," frequency  
shift keying "FSK," binary phase shift keying "BPSK," quadrature phase shift keying  
"QPSK," and quadrature amplitude modulation "QAM." With such systems, demodulation at  
the receiver may be achieved with a relatively small amount of circuitry. However, these  
20 types of systems suffer from several problems including multipath fading and narrow band  
noise.

In contrast, in spread spectrum communication systems, a data spectrum is spread by  
a pseudo-noise "PN" code at a transmitter while the PN code and the data are synchronized  
at a receiver. The PN code is composed of a binary sequence that is often referred to as the  
25 "chip sequence." The binary symbols in the chip sequence are referred to as "chips" and it is  
appreciated by those skilled in the art that the transmitter and intended receiver both have

Box PATENT APPLICATION  
ASSISTANT COMMISSIONER FOR PATENTS  
Washington, D.C. 20231

Date: June 27, 2000

File No.: 9785980-0008

Sir:

Transmitted herewith for filing is the patent application of

Inventor(s): Paul A. Underbrink

Steven Grönemeyer

For: IMPROVED SYSTEM AND METHOD FOR  
DESPREADING IN A SPREAD SPECTRUM  
MATCHED FILTER

I hereby certify that this paper is being deposited with the  
United States Postal Service as Express Mail in an envelope  
addressed to: Assistant Commissioner For Patents,  
Washington, D.C. 20231, on this date.

6/27/00

Date

Paula M. Theismann

Paula M. Theismann

Express Mail Label No. EM143602779US

Enclosed are:

- ☒ 34 pages of specification, 48 pages of claims and an abstract.
- ☒ an executed oath or declaration, with power of attorney.
- ☐ an unexecuted oath or declaration, with power of attorney.
- ☒ 11 sheet(s) of informal drawing(s)
- ☐ sheet(s) of formal drawings(s).
- ☒ Assignment(s) of the invention to Conexant Systems, Inc.
- ☒ Assignment Form Cover Sheet.
- ☒ A check in the amount of \$ 40.00 to cover the fee for recording the assignment(s) is enclosed.
- ☐ Associate power of attorney.

Fee Calculation For Claims As Filed

a) Basic Fee						\$	690.00
b) Independent Claims	37	-	3	=	34	X \$78.00	= \$ 2652.00
c) Total Claims	65	-	20	=	45	X \$18.00	= \$ 810.00
d) Fee for Multiple Claims						X \$260.00	= \$

Total Filing Fee \$ 4152.00

- ☐ Statement(s) of Status as Small Entity, reducing Filing Fee by half to \$ .00
- ☒ A check in the amount of \$ 4152.00 to cover the filing fee is enclosed.
- ☐ Charge \$ \_\_\_\_\_ to Deposit Account No. 19-3140.
- ☐ Other \_\_\_\_\_
- ☒ The Commissioner is hereby authorized to charge any additional fees which may be required to this application under 37 C.F.R. §§1.16-1.17, or credit any overpayment, to Deposit Account No. 19-3140. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-3140. Two duplicate copies of this sheet are enclosed.

8000 Sears Tower  
233 S. Wacker  
Chicago, Illinois 60606-6404  
(312) 876-8000

SONNENSCHN NATH & ROSENTHAL

By:

Francisco Rubio-Campos

Registration No.: 45,358



## UNITED STATES PATENT AND TRADEMARK OFFICE

**FILE COPY**  
 COMMISSIONER FOR PATENTS  
 UNITED STATES PATENT AND TRADEMARK OFFICE  
 WASHINGTON, D.C. 20231  
 www.uspto.gov



Bib Data Sheet

<b>SERIAL NUMBER</b> 09/604,595	<b>FILING DATE</b> 06/27/2000 <b>RULE</b> -	<b>CLASS</b> 375	<b>GROUP ART UNIT</b> 2734	<b>ATTORNEY DOCKET NO.</b> 9785980-0008
<b>APPLICANTS</b> Paul A. Underbrink, Lake Forest, CA ; Steven A. Gronemeyer, Cedar Rapids, IA ;				
<b>** CONTINUING DATA *****</b> THIS APPLICATION IS A CIP OF 09/498,893 02/07/2000 WHICH IS A CIP OF 09/145,055 09/01/1998 PAT 6,044,105				
<b>** FOREIGN APPLICATIONS *****</b>				
<b>IF REQUIRED, FOREIGN FILING LICENSE</b> <b>GRANTED ** 08/21/2000</b> -				
Foreign Priority claimed 35 USC 119 (a-d) conditions met Verified and Acknowledged	<input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance Examiner's Signature _____ Initials _____	<b>STATE OR COUNTRY</b> CA	<b>SHEETS DRAWING</b> 11	<b>TOTAL CLAIMS</b> 65
<b>INDEPENDENT CLAIMS</b> 37				
<b>ADDRESS</b> Francisco Rubio-Campos Sonnenschein Nath & Rosenthal 8000 Sears Tower 233 S Wacker Drive Chicago ,IL 60606-6404				
<b>TITLE</b> Improved system and method for despreding in a spread spectrum matched filter				
<b>FILING FEE RECEIVED</b> 4152	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees ( Filing ) <input type="checkbox"/> 1.17 Fees ( Processing Ext. of time ) <input type="checkbox"/> 1.18 Fees ( Issue ) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit	